FACTORS INFLUENCING FOOD CHOICE AMONG
CAREER WOMEN IN PENANG

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FACTORS INFLUENCING FOOD CHOICE AMONG CAREER WOMEN IN PENANG

By
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ENDORSEMENT

The project report entitled **Factors Influencing Food Choice Among Career Women In Penang** by **Soo Wooi Ping**, Matric No. **UK16712** has been reviewed and corrections have been made according to the recommendations by examiners. This report is submitted to the Department of Food Science in partial fulfillment of the requirement of the degree of Bachelor of Food Science (Food Service and Nutrition), Faculty of Agrotechnology and Food Science, University Malaysia Terengganu.

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DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

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ABSTRACT

This cross sectional study was conducted at Penang Island, Malaysia among 100 career women aged between 18 to 64 years. The main objective of the present study was to determine the most important factor in making food selection among career women. Data was collected using the adapted Food Choice Questionnaire (FCQ) which measured the food choice related factor that influence respondents' food choice. It consists of 40 items designed to assess the importance of ten factors, which were health, mood, convenience, natural content, sensory appeal, price, weight control, familiarity, religion and ecological welfare. Socio-demographic characteristics including race, age, marital status, income level, educational level and working sector were collected. SPSS version 16 was used for data analysis. Normality test, frequency, Mann-Whitney U test, Kruskal-Wallis H test and correlation test were used to analyze the data. The results showed that career women rated convenience as the most prominent factor in making food selection with a mean average score of 3.98 ± 0.68 on a 5-point Likert scale, followed by natural content and health factor. Ecological welfare, religion and familiarity were rated as the bottom three food choice factors among career women. In conclusion, the career women were most concerned on convenience, natural content and health factor in food choice selection. Hence, throughout this result, we understand about the actual condition of the food choice factors among career women in Penang. Moreover, it will be beneficial for food manufacturers to plan the marketing strategies by producing some convenience food products.

ABSTRAK

Kajian ini telah dijalankan dengan melibatkan 100 wanita berkerjaya yang berusia antara 18 hingga 64 tahun dalam Pulau Pinang, Malaysia. Objektif utama bagi kajian tersebut adalah untuk menentukan faktor yang paling penting dalam pemilihan makanan di kalangan wanita kerjaya. Soal Selidik Pemilihan Makanan (FCQ) digunakan untuk mengumpul data. Oleh itu, data yang dikumpul dapat mengkaji faktor-faktor yang mempengaruhi pemilhan makanan responden. Soal selidik tersebut terdiri daripada 40 item yang direka untuk menilai kepentingan bagi 10 faktor. Sepuluh faktor ini termasuklah kesihatan, mood, kemudahan, kandungan semula jadi, kederiaan, harga, kawalan berat badan, kebiasaan, agama dan kebajikan ekologi. Tambahan pula, ciri-ciri sosio-demografi seperti bangsa, umur, status perkahwinan, jumlah pendapatan, tahap pendidikan dan sector pekerjaan juga dikumpulkan. SPSS versi 16 digunakan untuk menganalisiskan data. Ujian kenormalan, kekerapan, ujian Mann-Whitney U, ujian Kruskal-Wallis H dan ujian korelasi telah digunakan dalam analisis data. Kajian ini mendapati wanita berkerjaya paling mementingkan faktor kemudahan dalam pemilihan makanan dengan purata skor min (3.98 ± 0.68) pada skala Likert dengan 5 mata, diikuti dengan faktor kandungan semula jadi dan faktor kesihatan. Di sebaliknya, kebajikan ekologi, agama dan kebiasaan dikenali sebagai faktor-faktor pemilihan makanan yang kurang penting di kalangan wanita berkerjaya. Kesimpulannya, wanita berkerjaya paling mementingkan faktor-faktor kemudahan, kandungan semula jadi dan kesihatan dalam pemilihan makanan seharian. Oleh itu, kita dapat memahami faktor-faktor pemilihan makanan yang sebenar di kalangan wanita berkerjaya di Pulau Pinang. Di samping itu, ia akan memberi manfaat kepada pihak pengeluar makanan. Oleh yang demikian, pihak berkenaan dapat merancang strategi pemasaran dengan menghasilkan beberapa produk makanan baru yang sedia dimakan ataupun makanan segera.

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ANOVA	Analysis Of Variance
FCQ	Food Choice Questionnaire
%	Percentage

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Career women can be defined as the female who are working at particular occupation or activity that may dedicate some values which is compatible to one's need. There are 46.8 percent of Malaysian women involves in labor force in year 1990 (Malaysia International Trade and Industry Report, 1995). Recently, the involvement rate of women labor force has reached a considerable attention due to it is a potential source of quicker growth of the economy. In addition, worker characteristics are also related to food choices (Devine, 2003).

Food choice is a complicated process. Eating is a general activity, which essential for survival and health which involved many distinct food choice decisions (Sobal & Bisogni, 2009). Besides, food production systems and consumers' nutrient intake are affected by food choice selection. The three major components that are used to classify the factors of food choice are life course, influences and personal systems (Furst et al., 1996). The life course means the events and experiences that a person has the prior to decide for their own food choice selection, as well as their expectations for the future possibilities (Elder, 1985). Besides, there are several factors influencing food choice decision. These factors depend on survey result about what influences a person's food choices (Sobal & Bisogni, 2009). Personal food systems will be developed by the person themselves. It is a cognitive system for food choice that leads

their eating behaviors in certain settings (Furst et al., 1996; Connors et al., 2001). Moreover, it may include the development, negotiation and balancing of food choice values, classification of foods and situations; and development of strategies, scripts, and routines for recurring food decisions (Sobal & Bisogni, 2009). However, this study is just focusing on factors that affecting food choice. According to previous research, Food Choice Questionnaire (FCQ) is a tool that might have higher potential to achieve the purpose of indicating general food choice (Pollard et al., 1998; Steptoe et al., 1995; Steptoe & Wardle, 1999).

The Food Choice Questionnaire (FCQ) includes 36 items delegating search, experience and belief characteristics related to intrinsic and extrinsic food attributes that encourage consumers to make general food choices (Christos Fotopoulos et al., 2009). The FCQ involves ten factors, which are 1. "Health", 2. "Mood", 3. "Convenience", 4. "Sensory appeal", 5. "Natural content", 6. "Price", 7. "Weight control", 8. "Familiarity", 9. "Religion", and 10. "Ecological welfare".

Some demographic background variables could have some effects on food choice selection among career women. To explore this study, demographic background can be divided into three major groups, which are personal factors (age, race and/or ethnicity), resources (education and income), and social roles (marital status). A variety of these three factors may dedicate to the development, maintenance and changes of dietary patterns (Christos Fotopoulos et al., 2009). For example, women's income may have influences on health factor. Low-income women who worked as health assistants perceived work as the central role in their lives and a great constraint on health practices and self-care due to time and energy limitations (Nelson, 1997). Therefore, this study may contribute new knowledge towards career

women regarding to the most significant factors that influencing their food choice selection.

1.2 Problem Statement

Although there are many studies have been indicated on factors that influencing food choice, but there is limited research done on food choice selection factors of career women. Nowadays, most of the women, who had higher education, are involved in workforce. The life is becoming more hectic; so the women's lifestyle may also changes. Women with the busy schedule in their working life might change their ways in choosing food. Previous study discussed factors affecting food choices of working mothers with young families. According to Kirk et al. (1990), they carried out two-stages data collection method to study influences of working mothers' on food choices for their families. However, this study aims to study the factors influencing food choice among career women based on Food Choice Questionnaire (FCQ).

1.3 Significance of Study

First of all, this study can add some new knowledge to consumer and food science field. The result of this study may help to identify which of the factors of food choice are most important to career women. These data can also be used as the additional data for the future research that relevant to food choice research. Moreover, by studying these factors, it is also beneficial for the food manufacturers to plan for the marketing strategies of foods to raise the economic activities in Penang. Besides,

this study may become the force of reference for Ministry of Health Malaysia to hold a program of food choice education.

1.4 Research Objective

Objective:

(i) To study the factors of food choice among career women in Penang.

(ii) To determine the most significant factors influencing food choice among career women.

(iii) To examine the significant difference between demographic characteristics on food choice motive.

(iv) To study the relationship between health and weight control; and weight control and price.

1.5 Conceptual and Operational Definition

Factor

Conceptual definition

Any of the forces, conditions, influences, etc., that acts with others to bring about a result (Oxford advanced learner's English-Chinese dictionary, 4th edition, 1997)

Operational definition

In this study, there are 10 forces and condition may influence the food choice selection among career women. The ten forces including health, mood, convenience, sensory appeal, natural content, price, weight control, familiarity, religion, and ecological welfare.

Food Choice

Conceptual definition

Food: Something that living creatures or plants take into their bodies to give them strength and help them to develop and to live (Oxford advanced learner's English-Chinese dictionary, 4th edition, 1997).

Choice: According to Oxford advanced learner's English-Chinese dictionary, 4th edition, 1997, choice could be defined as the act or result of choosing.

Operational definition

In this study, food choice referred to the food choosing to maintain and provide strength among career women.

Career women

Conceptual definition

Career: A job or profession for which one is trained and which one intends to follow for the whole of one's life (Oxford advanced learner's English-Chinese dictionary, 4th edition, 1997).

Women: Women can be defined as a fully grown human female (Oxford advanced learner's English-Chinese dictionary, 4th edition, 1997).

Operational definition

Career women are the main respondents in this study. Their food choice selections are being determined and studied.

Chapter 2

LITERATURE REVIEWS

2.1 Career Women

2.1.1 Introduction to Career Women

There are many ways to define career women. According to Clark and Kirchmeyer (2000), they used the term "career" instead of "work" was due to "careers" normally require greater dedication than do a series of jobs. Besides, they understand it is not easy to achieve satisfying experiences between career and family balance (Clark, 2000; Kirchmeyer, 2000). However, in this research, the definition of career women is the female who are working that may dedicate some values which is compatible to one's need. Moreover, they contributed to the economic development in Malaysia.

2.1.2 Importance of Female Involvement in Economic Development by Sectors

Malaysian women have been able to move into relatively better-paying opportunities in many sectors. There is rapid absorption of women into the workforce, especially in the sectors of manufacturing and service sectors (Malaysia International Trade and Industry Report, 1995). For example, the electronics industry has the largest employer in the manufacturing sector, and more than 75 percent of its workers are women. Similarly, the clothing and textile industries were mainly employed by female workers, which are 85 to 90 percent of the workers (Ariffin & Jamilah, 1994).

In the sector of manufacturing, women were employed as clerical workers, equipment operators, production workers, and service workers (Malaysia International Trade and Industry Report, 1995).

Other than that, the financial services and the government are major employers of women and women accounted for about 60 percent of the total labor force in these sectors (Malaysia International Trade and Industry Report, 1995). Moving into better paying opportunities, women no longer highly involved in the agriculture sector, so the number of women workers in the agricultural sector has declined (Malaysia International Trade and Industry Report, 1995).

2.1.3 Effects and challenges of Female Involvement in Workforce

According to Malaysia International Trade and Industry Report (1995), the increasing number of women involved in the workforce may reduce the fertility rate in Malaysia. Meanwhile, the decline in fertility rate might be due to the rise in the average age at marriage (Malaysia International Trade and Industry Report, 1995). Social Statistics Bulletin had also reported that the average age at marriage of women were 23.5 years in the year 1980. Nevertheless, the average age at marriage were increased to 24.17 in the year 1991 (Malaysia International Trade and Industry Report, 1995).

In addition, according to Percentage of Live Births Born to Women by Age Group, majority women had their first child at the age group of 20 to 24 (Malaysia International Trade and Industry Report, 1995). However, by comparing the statistic between the year 1982 and 1993, the percentage of women had the first child at the age group of 20 to 24 decreased 4.3% (Malaysia International Trade and Industry Report, 1995). This situation may be due to the education level of women had been

increased in recent years, and yet the tertiary education was fell on the age of 20 to 24 years old. Based on Malaysia International Trade and Industry Report (1995), Malaysian who studies in tertiary education was 54 percent male and 46 percent female. Furthermore, the result shows that there were no longer gender gap in education level among male and female.

Besides, marriage also may create a major problem to career women, which is a challenge for career women to manage the career and family balance (Helmi et al., 2010). Having a family may require as much attention as it is needed for her career (Helmi et al., 2010). Therefore, previous studied shown that many career women tends to delay or 'not to involve' in marriage and parenting (Blair-Loy, 2001; Nelson and Burke, 2000; Olson et al., 1990).

2.2 Food Choice

2.2.1 Introduction to Food Choice

Food becomes universally required by individuals as needed for survival and it could be available almost at anywhere and anytime (Sobal, 1999).

According to previous study, choosing is referred as making up an individual's mind with respect to a certain choice (Daveney, 1964). There are so many types of food produced and raised the eating opportunities in this world, so people do have a wide range of options in making food choice decisions (Schwartz, 2004). Hence, all of the marketers have to think of the needs of customers and understand how they choose (Wilkie, 1986).

Human food choice is a complicated issue, which are influenced by several factors associated with the food (Furst et al., 1996). There are so many potential

factors that may influenced humans in making food choice decision, so it is difficult to determine the significant factors (Shepherd & Raats, 2006). Thus, researchers tend to figure out the effect of food choice factors separately rather than to figure out the interaction of different types of the factors (Eertmans et al., 2005).

In addition, in food choice decisions, what, when, where, and with whom to eat, were taken into account (Bisogni et al., 2007). For example, making the decision in what to eat involved the judgment using few attributes (such as, weight control and health) or many attributes (such as, weight control, health, convenience, ecology welfare, natural content, and others) (Scheibehenne et al., 2007). According to previous study, frequency of food choice decision making happened every day in life (Sobal & Bisogni, 2009). Moreover, in previous research, people were estimated to make more than 220 food choice decision each day (Wansink et al., 2007). Therefore, food choice is a important aspect that happen in daily life, that needs to careful analysis or study.

2.3 Food Choice Process Model

Food choice process model used to describe the wide range of factors and types of processes, which involved in making food choice decisions (Sobal & Bisogni, 2009).

Food choice process model is developed to broadly consider the range of factors (Bisogni et al., 2002). There are three elements involved and worked together to produce several factors of food choice. Those major elements included life course, influences, and personal food systems. Besides, there are many major factors that consumers described as important in their food choice decisions, although they are not

exhaustive lists of everything involved in food decision for all individuals. Each component of the model is described in the Figure 2.1 below.

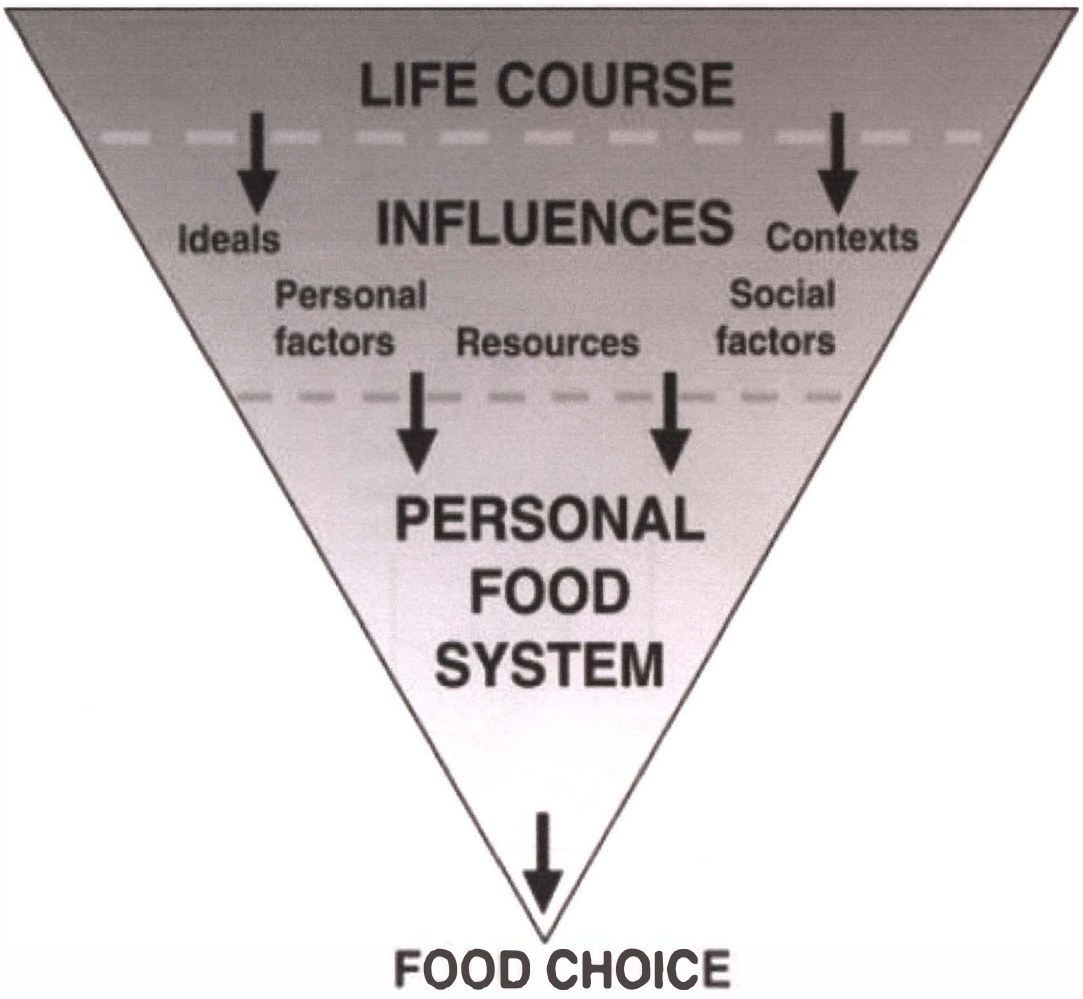

Figure 2.1: A food choice process model (Source: Falk et al., 1996; Furst et al., 1996; Connors et al., 2001)

2.3.1 Life Course

A life course of food choice model is the key concept of how people construct their food choice over a time by including the changing social, behavioral and cultural contexts in which the individual eats (Shepherd & Raats, 2006). The track dietary behavior over a time may include a simple progression through life stages like childhood, adolescence, and adulthood (Sobal & Bisogni, 2009). Besides, trajectories,

transition, timing and contexts are the dynamic processes that pass over every stage is showed in the Figure 2.2 below (Elder, 1985; Devine, 2005, Devine et al., 1998). The life course includes the events and experiences that individuals have had prior to present food choice decisions, as well as their anticipation and expectation about future possibilities (Elder, 1985).

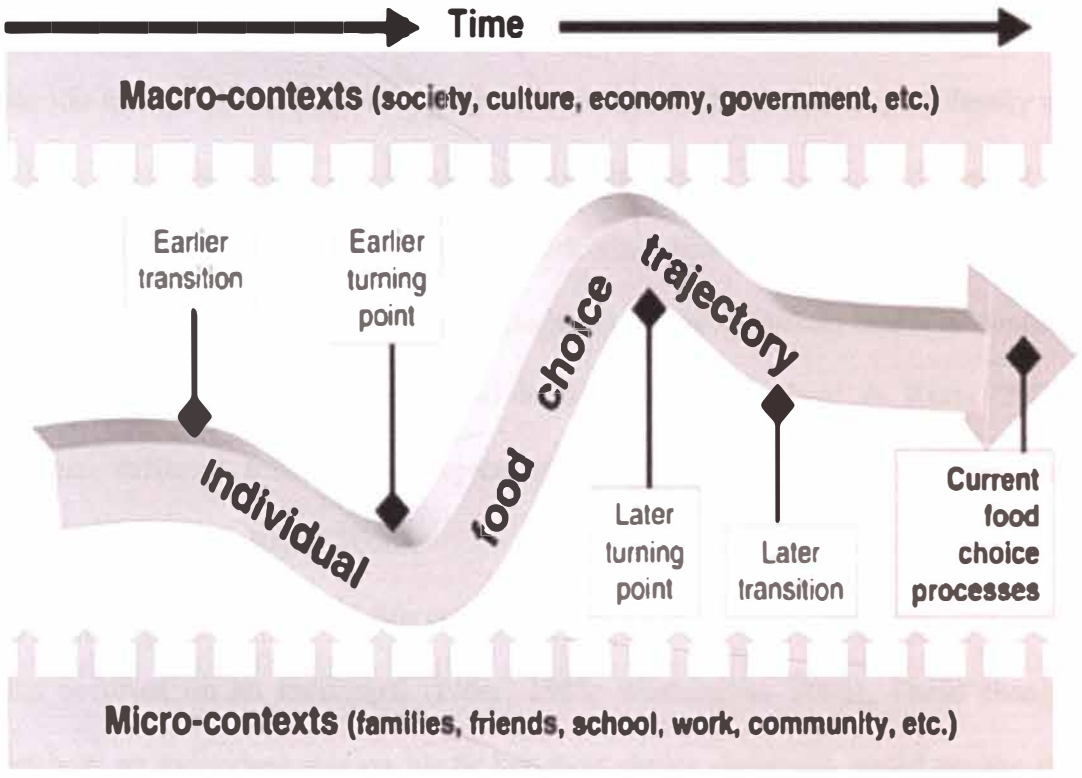

Figure 2.2: A conceptual model of how food choice is shaped by context over time to form a food choice trajectory (Source: Devine et al., 1998)

Trajectories are the most important life course concept (Elder, 1985). In addition, an individual's persistent thoughts, feelings, strategies, and actions are considered in food choice trajectories (Devine et al., 1985). In life, people tend to construct food choice trajectories as they move on actively (Sobal & Bisogni, 2009). In specific situational and historical contexts, peoples develop their food choice trajectories to show their own momentum and persistent (Devine et al., 1998, 1999b). For example, family plays important role to influence a person's food choice pattern

over a period of time. The family cuisine gives a "foot root" to evolve food roles and eating practices (Devine et al., 1985).

Food choice trajectories are dynamic. Transitions and turning points are switching behavior in a person's life course that leads to changes in food choice over a time (Wethington, 2005). Transitions are changes in food choice trajectories due to significant life events (Falk et al., 2000). On the other hand, turning points are major transitions that lead to radical reconstruction of food choices (Falk et al., 2000). The major life events are included changing culture via immigration, changing family via marriage, changing healthy diet via diagnosis of an illness, changing environment via entering or leaving school and changing work via employment (Shepherd & Raats, 2006). These transitions and turning points change roles, resources, health or contexts in ways that disturb common personal food systems (Shepherd & Raats, 2006). Therefore, different food choice trajectories will demonstrate new personal food systems (Shepherd & Raats, 2006).

Timing of event in the life course indicates the specific transitions or turning points occurred on an individual (Elder, 1985; Wethington, 2005). These changes affect how an individual acts on his or her food choice decisions, based on age and culture for specific events (Sobal & Bisogni, 2009). "Off time" life course event is the event occurs when a person always feels different with normal life and faces the problems on adopting their food choices (Devine et al., 1985). For example, by comparing the young adolescent mothers to adult mothers, the young adolescent mothers are less mature and do not adopt to make healthy food choices during pregnancy (Shepherd & Raats, 2006).

"Contexts" represents the environments that a person is lived (Sobal et al., 2006). These contexts can be categorised in macro and micro level. Macro level

contexts consist of conditions of social, cultural, political and economic that facilitates and constrains the constancy and changes in the food choice trajectories of a person (Shepherd & Raats, 2006). For example, during the economic downturn, children were highly concerned about getting enough food and not wasting food, and this persisted as part of their food choice trajectory as they aged (Falk et al., 1996). Micro level contexts consist of families, peers, schools, workplaces, communities, and other social and physical structures that shape food choice trajectories (Shepherd & Raats, 2006). For example, people in particular ethnic communities establish persistent food choice patterns that they learnt during critical periods of their lives as they were socialized into ethnic food cultures (Devine et al., 1999)

Overall, food choice decision of life course is embedded within personal and historical time and contexts of current food choice (Shepherd & Raats, 2006; Sobal & Bisogni, 2009). Life course's concept and its components developing both dynamic and constant aspects of food choice decisions that are built by past events, present conditions, and future expectations (Sobal & Bisogni, 2009). When individuals meet changes in certain life course transitions, they might develop personal food choice trajectories that they experience at different periods in lives (Shepherd & Raats, 2006). As a person experienced a new food choice, it may lead to a personal's food choice trajectory in their life course (Shepherd & Raats, 2006; Sobal & Bisogni, 2009). However, without the situations of past experiences, food choice decisions cannot be fully understood (Shepherd & Raats, 2006; Sobal & Bisogni, 2009). Life course of the food choice process model is leading to the consideration of current influences on food choice.

2.3.2 Influences

There are several factors influencing food choice decisions. The food choice model grouped the influences into five categories, which included cultural ideals, personal factors, resources, social factors, and present contexts (Furst et al., 1996). Hence, five of these categories might act with the life course of food choice decision, interacts with all of the food choice factors, and lastly a personal food system of an individual is shaped (Shepherd & Raats, 2006).

Cultural ideals are the standards that people used to make food choice based on what they have learnt through socialization (Shepherd & Raats, 2006). With these ideals as standard referencing subject, individual can categorizes their eating behavior into the category like "right," "normal," "inappropriate," or "unacceptable" (Sobal & Bisogni, 2009). Besides, people are usually learnt the cultural ideals through families and other institutions (Shepherd & Raats, 2006). For example, cultural effects caused by different tradition for food preparation and different food consumption pattern in specific habitat area (Lau, Krondl & Coleman, 1984). Cultural and sub-cultural ideals are the preferable and acceptable food that consumed by a large ethnic group within a culture (Sobal & Bisogni, 2009). Most of ethnic food culture was the main factor that affected on individuals' food choice (Devine et al., 1999; Falk et al., 1996).

Personal factors are individuals' food choice decision, which is affected by their characteristics (Sobal & Bisogni, 2009). Those personal factors consist of physiological, psychological and social factors. The physiological factors included genetic and sensory sensitivity towards food taste; meanwhile psychological factors included mood, preference and personality (Shepherd & Raats, 2006). In addition, social factors are based on individuals' self-concepts and identities. All of these personal factors are learnt and will develop over time and become the identities and

uniqueness of the individuals (Sobal & Bisogni, 2009). Dietary individualism has different food choice than others (Bove et al., 2003). Picky eater, vegetarian, flexible eater and healthiest eater are categorized as dietary individualism (Bisogni et al., 2003).

Resource is the asset that available for individuals to consider in making food choice decisions (Sobal & Bisogni, 2009). The several types of assets, which are tangible-physical and intangible capital. Money, equipment, transportation and space are tangible-physical capital, which touchable for people. At the meanwhile, time, skills and knowledge are the intangible capital (Sobal et al., 2006). In addition, there are financial capital, such as income and wealth; social capital as relationships and connections; and cultural capital that included values and traditions. Furthermore, wealth resources would inhibit food choice decision (Sobal & Bisogni, 2009). For examples, low income people often or seldom experienced with food insecurity was based on their financial conditions (Radimer et al., 1992).

Social factors are the relationship system of individuals that can influenced their food choice decisions (Sobal & Bisogni, 2009). Eating relationship and food choice are constructed from many units, such as families, roles, groups, networks and communities (Shepherd & Raats, 2006). For example, in term of families, family members always encouraged to consume healthy food (Bove & Sobal, 2006). Sometimes, family members eat most of their meals together and negotiate joint food selections symmetrically or asymmetrically (Sobal, 2000).

Contexts are the wider environments affecting food choice decisions, which included social environments and physical environments. In term of the social environment, social institutions produced economic conditions and government policies to shape food choice decisions. For example, the food system is included in

the context for food choice decisions, so that people would take foods into their consideration for their food selection (Sobal et al., 1998). On the other hand, in term of physical conditions, people make food choice decision based on the consideration of climate, physical structures, and other material objects (Sobal & Bisogni, 2009). For example, there are several influence in making the choice in selecting particular foods: including food storage and display, shape of food containers, type of eating utensils and the environment of the building (Sobal et al., 2007; Falk et al., 2001).

As a conclusion, influences made changes to the complication food choice decision in the life time.

2.3.3 Personal system

Personal food system is the mental process that people develop in their eating behavior in certain situation (Furst et al., 1996; Connors et al., 2001). Personal food systems include the process of food choice values developments, negotiation and balancing of food choice values; classification of foods and situations; and development of strategies, scripts, and routines for recurring food decisions.

Food choice values are a set of crucial consideration that people bring to construct food choice, such as taste, cost, health, convenience and relationships in their food choice. Moreover, these values also involved certain meanings and feelings, such as emotional effect, that people personally attached to these considerations (Smart & Bisogni, 2001). For example, the term "healthy eating" can be defined in many meanings by different people (Falk et al., 2001). In addition, these values are dynamic, and it could be changed over the life time of an individual (Sobal & Bisogni, 2009). Thus, people would modify their food choice values to shape a new value over a time (Shepherd & Raats, 2006).

Value negotiations are the important element in food choice decision due to all values could be satisfied by certain food or setting of food behavior (Frust et al., 1996). These values lead people to think consciously about which of the value is significantly important to them at that time and could be used to make food decision. On the contrary, as people make the decision based on automatic and subconsciously, the decision will be less mindful (Frust et al., 1996; Sobal et al., 2006). Consumer tends to negotiate and balance those competing values according to the priority to simplify food decision (Scheibehenne et al., 2007; Connors et al., 2001). For an example, a diabetic patient might prioritize the value of health first rather than other values like taste, cost, convenience, and relationships in their food choice (Sobal & Bisogni, 2009).

Classification of foods and situations are one of the ways to simplify food choice decisions. Those categories are based on the characteristics of the foods, the contexts, or their personal experiences like preferences (Blake et al., 2007; Furst et al., 1996). In this complicated world, classification is necessary to determine a person decision to consume at where, when, and with whom (Sobal & Bisogni, 2009). Personally operational classification scheme for food and eating situations are embedded in classification schemes that are significant for one's social environment (Blake et al., 2007; Furst et al., 2000; Falk et al., 2001). Since food choice varies between people, so it is normally applied according to the situation (Blake et al., 2007; Furst et al., 2000; Falk et al., 2001). In addition, there were bundles of attributes bounded together in the specific food or eating situation (Lancaster, 1991). All of those attributes might have presented in vary characteristics, so classification was necessarily being used for certain food and eating situation. For example, apples were classified in multiple dimensions, which include categories of fruit, snack, healthy

food, source of fiber, sweet food, etc (Sobal & Bisogni, 2009). Besides constructing food decision, food classification also helps everyone to evaluate their food choice according to the food values (Sobal & Bisogni, 2009).

Food choice strategies and scripts are the behavioural plan that people develop for how and what they eat in recurring situations (Sobal & Bisogni, 2009). Strategies can be defined as the rule that individuals developed to implement the food choice values in food behavior (Jastran et al., 2009; Furst, 1996; Falk et al., 1997). Strategies provided guidelines that commonly used to simplify food choice decision and aid people to make a decision quickly (Connors et al., 2001; Sobal et al., 2006; Falk et al., 1996). Many types of main strategies have been identified (Sobal et al., 2006). There is exclusion of certain foods or eating options and limited restriction of particular food ingredients. Furthermore, substituted or exchanged one food for another, enhanced foods by added extra foods or other substances and modified or adjusted of certain foods. All of these major strategies made food choice decisions more likely based on personal habit (Sobal & Bisogni, 2009). On the other hand, food choice scripts are the cognitive procedure that people used in their food behavior within a specific situation (Sobal & Bisogni, 2009). Scripts include expectations about the eating situation and specific sequences of behavior that people shaped (Blake et al., 2008). Scripts and strategies work well to predict and comfort the procedure of food choice (Jastran, 2009).

As a conclusion, personal food systems are the mental process that immediately proximate to actual food behaviors, compared to more influences and life course. However, life course, influences and personal food system operate as a dynamic process in food choice decision. In addition, all of these may change over an individuals' life when they had to adapt with a certain situation and setting.

2.4 Factors that influencing Food Choice of Career Women

2.4.1 Health

Generally, women tend to select healthier diet as they want to control their body weight (Pollard et al., 1998). In the previous study of predicted gender difference in food choice behaviors, the result had showed that women is more likely trying to follow important healthy eating recommendation (Wardle et al., 2004). For those women, who practice the healthy eating, there could have an effect on health over a long period (Wardle et al., 2004). Moreover, it is advantageous to provide access to healthy food choice because it may lead to maintaining the healthy workplace.

However, there are still some women, who do not concern about the healthy diet when they are selecting food, especially low-income women. In addition, they indicated that the complexity and potential food choice have effect on health conditions among low-income women and their families (Dammann et al., 2009). In this study, there are more than three quarters of the women, who were overweight or obese. Hence, this study had showed that these women have more challenges to prevent the obesity-related disease than having a healthy diet. Moreover, the low-income women play multiple roles including parent, role model, food purchaser, and meal preparer in their households, and most reported being the head of household. Therefore, the food choice of the women may also affect on the food intake of their children and family members.

By comparing to normal-weight mothers, obese mothers tend to less control over their children's intake (Wardle et al., 2002). Thus, the multiple role of low-income women and female head of household cannot be underestimated.

2.4.2 Mood

Stress is also one of the factors that may influence food choice selection, as it is grouped into "mood" factor. Working for longer hours not only increase the pressure of rapid productivity at work, but also increase the prevalence of employed parents (Jabs and Devine, 2006). There is increasing evidence of stress that lead to disease was caused by biological effects and the healthy behaviors changes (Adler et al., 1994; Steptoe, 1991).

In the hectic lifestyle, pressure in the workplace has been associated with higher energy intake (McCann et al., 1990; Wardle et al., 2000). Previous studies have suggested that when an individual under stress, the food choice may increase with the tendency toward sugary, fatty (often snack-type) foods (Pollard et al., 1995; McCann et al., 1990; Wardle et al., 2000). Generally, in women there were no significant differences for this problem. However, stressed women did show a trend with a modest increase in the consumption of sweet and bland foods with no change in the intake of salty foods (Oliver et al., 2000).

Van Strien et al. (1986) indicated that women usually are more emotional on eating than men. In addition, stress increases the intake of sweet and fatty foods in emotional eaters (Oliver et al., 2000). Therefore, stress would lead the emotional eaters, especially women, to greater consumption of highly palatable, snack-type foods.

2.4.3 Convenience

Individual who experiences time constraint may concerned on the convenience factor in their food choice. Time scarcity can be known as time shortage, time

pressure, and time crunch. It is the perception of a person, who feels that having not enough time to do on personal stuff on a period of time (Godbey et al., 1998).

In hectic lifestyle, the feelings of time scarcity are increased (Zuzaneket al., 1998). Changes in lifestyle also may increase the frequency of eating out (Boo et al., 2008). Furthermore, busy schedule can also affect on the time available for meal preparation and the consumption of foods away from home (Mancino et al., 2009). Euromonitor International (2007), a global market study, reported that young Chinese consumers prefer eating out to save time from preparing meals in the kitchen. According to year 1965 and 1995/1998 US time diary studies, they indicated that the overall time spent on meal preparation decreased by 38.6% during this period (Jabs & Devine, 2006). Moreover, in the study of American Time Use Study (ATUS), they reported that women spent 0.79 hour per day in food preparation and cleanup (Bureau of Labor Statistics, 2005). In addition, Jabs (2006) reported that 35% of women in the age group of 21–64 years spent no time for daily food preparation.

Increasing numbers of women in the workforce can also change family lifestyles and have an impact on eating habits. As the working hours of employed parents increased, they are spending less time on meal preparation (Bianchi, 2000, 2006; Bianch et al., 2006; Sayer, 2005; Shelton, 1992). Hence, there had an increase frequency in meals eaten and prepared away from home (Blisard et al., 2002; Economic Research Service, 2006; Guthrie et al., 2002).

Other than eating out habits, some of the women that play a multiple role might fulfill the role demand by coping with several strategies. Furthermore, women always sacrificed their personal time, such as sleeping and exercising time, to be responsible for their roles (Hessing, 1994; Hochschild and Machung, 2003; Sayer, 2001; Robinson and Godbey, 1999). In addition, some career women had reduced

their time in the workplace, in housework, with children or their partners, and even seeking help from someone (Garey, 1999; Bianchi, 2000a &2000b; Heymann, 2000).

Cawley (2004) reported that time scarcity also has effect on the increase in overweight and obesity in adults. In the previous study, feelings of time constraint can be contributed to greater prevalence of employed parents (Daly, 1996).

2.4.4 Sensory appeal

Sensory appeal is also one of the factors that influence food choice selection. It is normally described in term of "taste". In 1997, taste reported as the main factors that influencing food selection (Drewnowski, 1997). Food taste is a concept involving both taste and smell and the oral perception of food texture (Drewnowski, 1997). In term of purchasing food, consumer will be driven by sensory preference for the taste, aroma, and texture of foods.

Palatability is another aspect of food taste. According to Stubbs (2000), palatable is related to the energy density of foods in certain cases. In addition, it is most probably linked to their fat and sugar content. Hence, another study of Drenowski (1995) also indicated that taste is important in the selection of high fat diets because fats are responsible for the texture and aroma of many foods. Thus, foods containing fat, sugar or both are usually known as good taste in the food system (Drewnowski, 1997).

The findings of the studies in Great Britain (Steptoe et al., 1995), Russia (Honkanen & Frewer, 2009), New Zealand (Prescott et al., 2002) and Belgium (Eertmans et al., 2005) indicated that sensory appeal ranked as the most important food choice motive. However, this result is opposite to the findings in Asian countries, including Japan, Taiwan and Malaysia. On the contrary, sensory appeal was not

ranked as the most important food choice motives (Prescott et al., 2002). Besides, in the study of food choice motives for Malay husbands and wives, results showed that Malay husbands and wives rated sensory appeal as the lesser important food choice motives than others.

2.4.5 Natural content

The natural content is one of the food choice elements for those who are concerned about the use of additives and the selection of natural ingredients (Steptoe et al., 1995). Over the past two decades, the environmental awareness was raised to concern about the packaging and the ingredient contents that might influence among the food purchaser in making decision (Steptoe et al., 1995).

Previous study reported that natural content usually is the most important element assigned to food (Fotopoulos et al., 2009). This result may due to the occurrence of food scares that happened more than a decade ago. Moreover, after the previous research done by Steptoe et al. (1995), they successfully driven consumer's awareness towards food safety-related issue internationally.

In Malaysia, individuals were agreed to the four most important food choice factors, which included health, natural content, weight control and convenience (Prescott et al., 2002). Hence, natural content is one of the most important food choice factors in the previous study. For example, most of the traditional Chinese will considered the natural food as the "medicine" (Prescott et al., 2002).

On the other hand, previous study reported that there was a positive relationship between natural content with weight control (Steptoe et al., 1995). There is more women make restriction on body weight than unrestricted women (Steptoe et

al., 1995). Therefore, most of them would reduce the calorie of food intake by consuming natural favor food, such as raw vegetables (Steptoe et al., 1995).

2.4.6 Price

Price is affecting food choice decision. In New Zealand, especially European descent, they rated price as one of the four most important food choice motives (Prescott et al., 2002). However, Malaysian rated price factor as the least important factor over other food choice motives (Prescott et al., 2002). Moreover, the finding is similar to some other studies. There are two studies indicated that household income and price motive have a negative correlation (Furst et al., 1996; Kearney et al., 2000). In the recent study, according to Asma et al. (2010), Malay husbands and wives in Malaysia felt that price was not considered as the most important motive. Hence, they did not make food choice decision based on price.

On the contrary, in the society of low-income individuals, they usually indicated that price is undoubtedly more important in making food choice selection (Drewnowski, 2004; Richards & Smith, 2006; Steptoe et al., 1995). Thus, food price is considered as a more crucial factor in food selection among individual with low income than those that are better off.

Moreover, women rated price as more important elements than men. Based on the findings of previous study, women in the U.K. usually play a role as household food purchaser (Prescott et al., 2002). Therefore, they had highest awareness of budgetary limitation than men.

Nevertheless, there was an interesting observation on price conscious on UK women. Cade et al. (1999) found that fruit and vegetable intake that considered as better diet quality was associated with higher diet costs. The interesting observation is

that women shows the desire to eat low calorie food more than consideration of cost for food (Prescott et al., 2002).

In addition, sweet and high-fat foods, which provide energy, are at the lowest cost in the current structure of food prices (Drewnowski et al., 2004). Most of the sweet and high-fat foods may lead to weight gain and obesity. Moreover, previous study showed that the prevalence of obesity is higher among groups with low education and low income (Flegal et al., 2000; Paeratakul et al., 2002). Thus, this might be one of the reasons for the increase of obesity rate among consumers who consumed inexpensive calorically-dense foods which are convenient and taste better.

2.4.7 Weight Control

Weight control is an important element in selecting food for the person who cares about their body weight (Steptoe et al., 1995). Weight control would arise as an element in the food choice possibly in the research of self-control diet intakes and the trend of preference for slim bodies (Steptoe et al., 1995).

In many studies regarding attitudes of body weight on food choice, most of the women indicated that they are concerned about their weight status and more likely to control body weight (Wardle & Griffith, 2001; Bellisle et al., 1995; French & Jeffrey, 1994; Serdula et al., 1993). Besides, there are numerous studies reported that women eat more high-fiber foods, fruits and vegetables, choose less low-fat foods, and consumed less soft drinks (Neumark-Sztainer et al., 1998; Shimakawa et al., 1994; Li et al., 2000; Beer-Borst et al., 2000; Patterson et al., 2000; Liebman et al., 2001). This might be the reason why there are so many low fat products in the market, especially designed for women to control body weight.

Previous study reported that low-income women might have the potential impact on the weight and health status in making food choice decision (Dammann et al., 2009). Moreover, this might also affects their families' health status (Dammann et al., 2009). One of the finding in Canada showed that low-income single mother tends to consumed lower nutritional food consistently than their children (McIntyre et al., 2003). As they provided the higher nutritional food to their children, and they only consumed some of the lower nutritional food for themselves. Thus, this may lead to affect their weight and health status due to lack of certain nutrients intake.

2.4.8 Familiarity

Familiarity is the factor that concerning how important it is for an individual to consume the food that they used to it rather than explored on the novel food (Steptoe et al., 1995).

According to Steptoe et al. (1995), a positive association between familiarity and the mood was observed, suggesting that people whose dietary selection was influenced by the need to regulate stress responses also prefer familiar foods.

The factor of familiarity was usually rated as least important factors in Malaysia (Prescott et al., 2002). In the previous research (Prescott et al., 2002), familiarity was ranked least important by all countries, which included New Zealand, Japan and Taiwan. Thus, these findings indicated that novel foods are often initially refused by the communities (Birch & Marlin, 1982; Pliner & Pelchat, 1991). Therefore, the exposure of novel foods may consume time and then brew out familiarity (Pliner, 1982).

According to Steptoe et al. (1995), familiarity was not to differ on average between genders, but it was differed between the age group. Hence, older people were

seldom being adventurous to explore novel foods. Besides, there was a significance relationship between familiarity and income. As the individuals' incomes increased, they are able to take greater risks with food selection, since they are affordable.

Moreover, previous study reported that mothers and female guardians, who always play the role of head of households, their parental attitudes, upbringing, knowledge of nutrition, and cooking skills could have affected their families' food intake and meal patterns directly (Dammann et al., 2009). Hence, "food root" might be developed over a period of time, so it will be familiar to the families.

2.4.9 Ecological Welfare

After the Food Choice Questionnaire(FCQ) of Steptoe et al. (1995), ecological welfare is the new scale that has been added into FCQ in the year 2000 to measure the ethical food choice motives (Lindeman & Väänänen, 2000). Moreover, this element was divided into two subscales, which included animal welfare and environmental protection.

In this element, people's ethical food choice was mostly based on their magical thinking. There are few studies illustrated magical thinking which usually came from contamination beliefs (e.g. Haidt et al., 1994; Rozin & Fallon, 1987; Rozin et al., 1986; Rozin & Nemeroff, 1990). In 1997, Rozin et al. indicated that vegetarians would feel that meat contaminates vegetarian foods based on their moral-ecological reasons.

Besides, based on the environmental protection factor, specific people believed that they have to remove some of the impurities and toxins from their bodies, otherwise the impurities and toxin would be store permanently (Hines, 1988). In their magical thinking, they usually assumed that natural foods as the benefit products;

while the artificial foods were considered as poisonous products (Atkinson, 1979; Hines, 1988).

In the previous research, young and middle-aged women seem to have magical thinking and vegetarianism (Lindeman & Stark, 1999). Regarding to the elements of ecological welfare, there are 96% of the women stated that "The most important thing to me is that animals do not suffer" (Lindeman & Stark, 1999). In addition, this could be indicated that women were concerned about the improvement of ecological welfare. Besides young and middle-aged women, ecological welfare was rated as the most important food choice elements among female vegetarians (Lindeman & Väänänen, 2000).

2.4.10 Religion

Religion is one of the food choice factors based on ethical concern (Lindeman & Väänänen, 2000). Besides, it is also based on ideological food selection, which related to an individual's values, view of the world and philosophy of life (Lindeman & Stark, 1999). Commonly, a person's values and world view are the main aspect to express his or her food choice identity (Baumeister, 1997; Cheek, 1989; McAdams, 1996).

In addition, Lindeman and Väänänen (2000) stated that the importance of religious food motive would differ in several countries. In certain countries, religion might be more important than other food choice elements. However, it was stated as not important element for other countries, such as Finland (Lindeman & Väänänen, 2000) and Russia (Honkanen & Frewer, 2009).

In Malaysia, recent research contrary reported that Malay husbands and wives ranked religion as important food choice motive in making food selection (Asma et al.,

2010). As all of the respondents are Muslims, so they were more likely to prioritize their food choice on "Halal" food, which were stated in Islam's food guidelines.

According to Lindeman and Stark (1999), their research stated that ideological food choice was also referred to vegetarianism, which includes semi-vegetarians and vegetarians. Vegetarianism person agreed in more magical beliefs about food and eating than omnivores. Moreover, the religious or ideological people often have their individuals' thinking towards the food that they considered as "bad" for a certain reason (Chaiken & Pliner, 1987; Rozin, 1997; Stein & Nemeroff, 1995). Those reasons are included vegetarian eating, healthy eating or even non-fattening food, which are similar to religion characteristic for basic identification. Throughout this finding, the study indicated that women were known as ideological eaters, who emphasized on ideological motive in food selection. Nevertheless, their magical thinking was more concern about food and health (Lindeman & Stark, 1999).

Besides, women and older citizen had stressed on some ethical reasons more than men or younger people (Lindeman & Väänänen, 2000). This could be summarized as the age and gender may affect on this food choice element. However, this effect had also been found in other food choice factors.

Based on the discussion above, the conceptual framework is formed as the Figure 2.3 below.

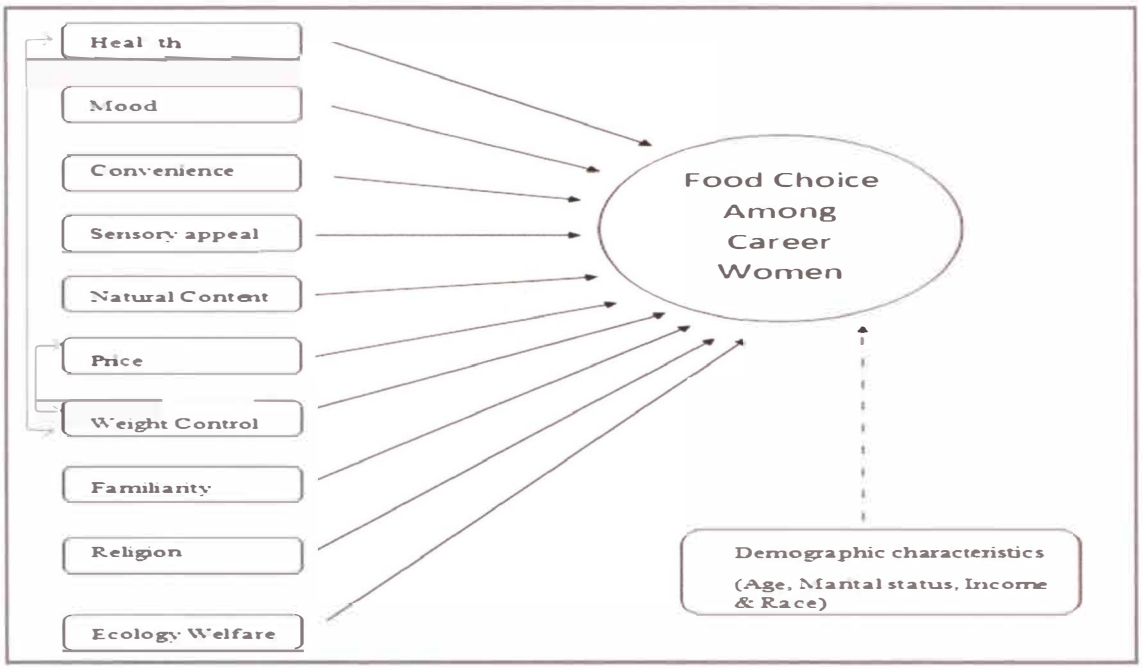

Figure 2.3: Hypothetical model linking food choice factors and demographic characteristics towards food choice among career women

Chapter 3

METHODOLOGY

3.1 Study location

Penang was the sampling location chosen for this research. According to Department of Statistic, Penang has the second higher population density among all of the states in Malaysia, which the estimated population was 1,609,900 in 2010 (Penang Statistics, 2010). Moreover, the Timur Laut of Penang was the location that has the highest population density, which the estimated population was 520,900 in 2010 (Penang Statistics, 2010). In Penang, the population of female group is continuously increased since year 1980 to year 2010. Moreover, female group, was allocated for almost 50 percent of the total population (Penang Statistics, 2010). Based on the above discussion, Penang was chosen as the place to carry out this research.

3.2 Research design

This study used inferential and descriptive research. The purpose of descriptive research was to describe the various factors that influence on food choice of subject (Sekaran & Bougie, 2009). The interrelation between certain factors was also being determined. The survey questionnaire was used as the research technique.

A cross- sectional study was carried out. This study was also known as one shot study (Robert & Richard, 2008). Data in this study were gathered once over a period of days or weeks or months, in order to answer the research question (Sekaran & Bougie, 2009). In this research, individuals were used as the unit of analysis. For instance, this research was interested in career women's food choice factors.

3.3 Sampling plan

3.3.1 Types of sampling

Non-probability sampling was used in this research. This study type suggested that respondents in the population do not have any probabilities attach to their being chosen as the sample subjects in this research (Sekaran & Bougie, 2009). There were several types of sampling under this classification. Purposive sampling was used to sample the respondent in this study as the sampling was necessary to obtain information from specific target groups (Sekaran & Bougie, 2009). Hence, sampling here was confining to career women, who can provide the desired information to the items that included in the questionnaire. Then, convenience sampling was also known as opportunity sampling. It usually refers to involve selection of respondents, who were accessible and convenient (Robert & Richard, 2008). For example, this research questionnaire was conveniently distributed to the working women, who had lunch in the cafeteria around the working area.

3.3.2 Sample elements/subjects

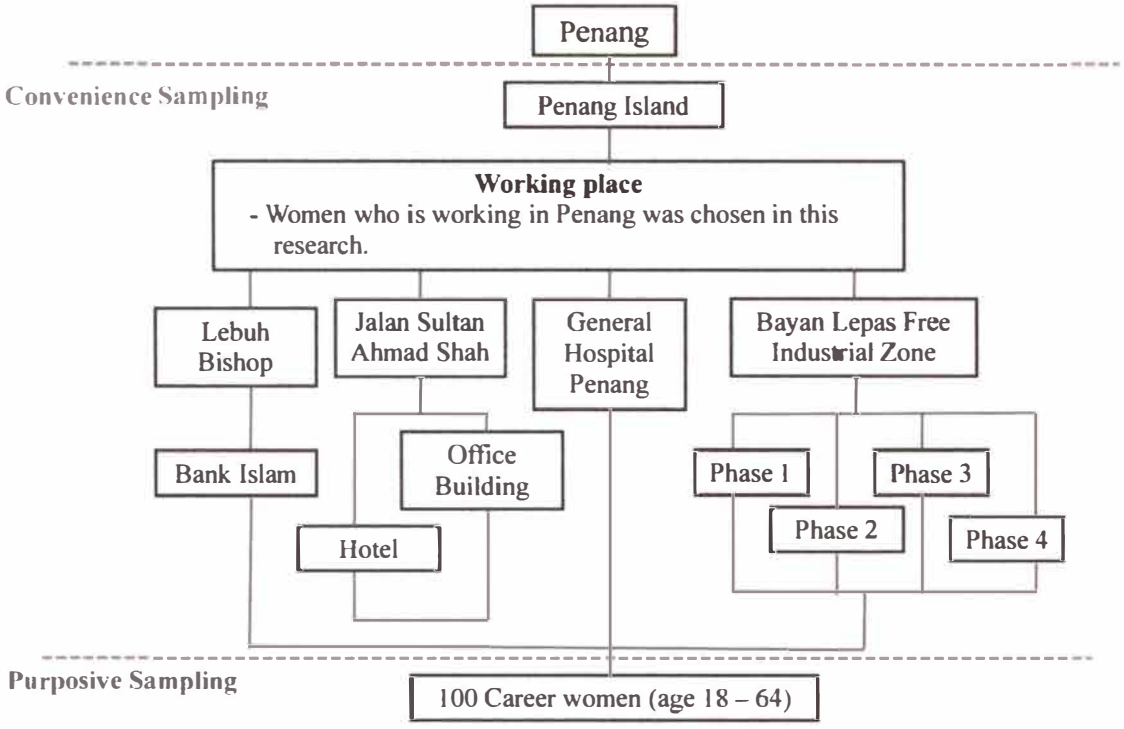

Figure 3.1: The sampling framework of this study

As shown in Figure 3.1, the target groups in this research were career women, who work at Bayan Lepas Free Industrial Zone area, Lebuh Bishop, General hospital and Jalan Sultan Ahmad Shah. This may be due to there was the highest percentage of employed persons involved in the industry of manufacturing, which was more than 30% in the year 2008 and 2009 (Labour Force Survey, Department of Statistics, Malaysia). In addition, most of the manufacturing and electronics industry are located in Bayan Lepas Free Industrial Zone. Besides, there were a lot of restaurants, companies, hotels and few schools in Jalan Sultan Ahmad Shah. For example, Northam tower, BHL tower and KWSP Building consist of many offices in these towers which comprises both private and government sectors. In addition, there were two hotels (The Northam All Suite Penang and Hotel Paramount) in this road, which increase the chances of getting potential respondents, women stay in these hotels and who work in this hotel

also can help in this research. On the other hand, Bank Islam and Penang General hospital increase the chance to get respondent who work in government sectors.

There is a formula use to calculate the sample size for 95% confidence level and Precision = 0.5 are assumed in Penang (Yamane, 1967).

$$n = \frac{N}{1+Ne^2} = \frac{1,609,900}{1 + 1,609,900\ (0.05)^2} = 400$$

The total population in Penang is 1,609,900. However, the target respondents in this research were career women only. Therefore, 100 career women respondents were included in this research.

3.3.3 Expected sampling duration

The sampling of survey questionnaires was completed within two months, which was begun from 30th May 2011 until 31st July 2011.

3.4 Research instrument

In this research, the close-ended question was used. Hence, respondents could make quick choices among a set of alternatives (Sekaran & Bougie, 2009). Besides, it might help the respondent to answer the question quickly and accurately. All items in this research questionnaire used a nominal (Adapted from Ooi, 2008; Urana & Lahteenmaki, 2007; Dibsdall et al., 2002) and Likert scales (Adapted from Steptoe et al., 1995 and Lindeman &Vaananen, 2000) were considered as closed.

The questionnaire consisted 2 sections (Please refer to Appendix A for questionnaire). The first section (A) was about the factors that influence respondents' food choice. The second section (B) was about the demographic profiles of respondent

that includes age, monthly income, educational level, marital status, working sector and race.

In section (A), the reason that was important to the respondents on the food they consume on a typical day will be rated with 5-point Likert scale. The 5-point Likert scale consists of rate 1= "Strongly disagree", 2= "Disagree", 3= "Neither agree nor disagree", 4= "Agree" and 5= "Strongly Agree". Hence, the 5-point Likert scale studied the degree of food choice factors influence on career women. The scale was also used to measure the food choice decision of each of the respondent.

In this research, the questions seeking for personal information were placed at the end of the questionnaire. This may due to the respondents were convinced of the legitimacy and genuineness of the questions set in the questionnaire, by the time they reach the end of the question (Oppenheim, 1996). Therefore, they were more willing to share their personal information. Besides, nominal scale used to assess with the demographic information, it allowed the respondents to select the variable of element through the categories or groups in questionnaire (Robert & Richard, 2008).

3.5 Reliability and Validity

Before the research was carried out, the questionnaire was assessed by conducting the pilot test. Pilot test was a small scale that gathers information from 30 respondents. This might help to investigate whether the questionnaire works and understand. Through the pilot test, errors that exist in the questionnaire could be edited before distributing to the public.

A pilot test was carried out by gathering information from 30 career women, who are UMT staffs and shopkeepers on April 2011. Hence, the reliability and validity of the items in the questionnaire was examined.

Validity was also used to measure the goodness of measures. The questionnaire (instrument) was measured when a set of questions were asked with the hope of tapping for the concept (Sekaran & Bougie, 2009). Correlation examined the relationships among the various items of the instrument as shown in Table 3.1.

Table 3.1: Correlation coefficient of food choice factors among career women (n=30)

Factor	H	M	C	SA	NC	P	WC	F	EW	R
H	1									
M	0.822	1								
C	0.760	0.697	1							
SA	0.638	0.789	0.773	1						
NC	0.819	0.747	0.654	0.597	1					
P	0.596	0.603	0.819	0.765	0.577	1				
WC	0.775	0.622	0.752	0.553	0.723	0.709	1			
F	0.693	0.861	0.610	0.795	0.558	0.595	0.442	1		
EW	0.726	0.804	0.766	0.741	0.761	0.760	0.666	0.710	1	
R	0.581	0.790	0.600	0.762	0.623	0.544	0.414	0.767	0.690	1

Key: H: Health; M: Mood; C: Convenience; SA: Sensory Appeal; NC: Natural Content; P: Price; WC: Weight Control; F: Familiarity; EW: Ecological Welfare & R: Religion.

The findings of correlational test is showed in Table 3.1, that all of the factors were associated with each other within the strength ranging from r=0.414 to r=0.861. Based on the findings, the strength of relationship between factors could be concluded to be moderately to highly associate to each other.

In addition, the reliability is about the extent the measurement of the items in the questionnaire is without bias and error free. Moreover, it ensures that the measurement is stable across various items and across the time in the questionnaire.

For the Food Choice Questionnaire, Cronbach's alpha (α) was a reliability coefficient use to measure inter-item reliability. Reliability coefficient is an estimate of percentage of variance explained by the scale. For example, in the early stage of research, the Cronbach's alpha should be more than 0.7 (Nunnally & Bernstein, 1994). Besides, for the individual level comparison, Cronbach's alpha should be 0.9.

Table 3.2: Inter-item reliability coefficient of food choice factors

Factors	**Cronbach's alpha**
Health	0.938
Mood	0.917
Convenience	0.849
Sensory Appeal	0.798
Natural Content	0.814
Price	0.810
Weight Control	0.882
Familiarity	0.749
Ecological Welfare	0.889
Religion	0.809

Besides, the findings of inter-item reliability are showed in Table 3.2. The findings of Cronbach's alpha (α) were greater than 0.7 for the entire factor. As a result, there were no changes made on the questionnaire.

3.6 Data collection

The procedure for data collection is shown in Figure3.2. The data collection method used in this study was personal administered questionnaire. It was an excellent way to collect data personally when the survey confined to a local area and target group (Sekaran & Bougie, 2009). The questionnaire, which was distributed directly to the respondent, was collected once completed. Nevertheless, some of the

questionnaire form was leave in some companies and was collected after a week time. This may only applicable for working women that is unable to complete this survey during working.

Moreover, as the questionnaire was distributed directly to the respondents, doubt could be immediately clarified whichever statements that respondent not understand. In addition, once the questionnaire had been collected, missing data could be prevented as the questionnaire been double checked. An actual procedure taken during data collection is showed in Figure 3.2 below.

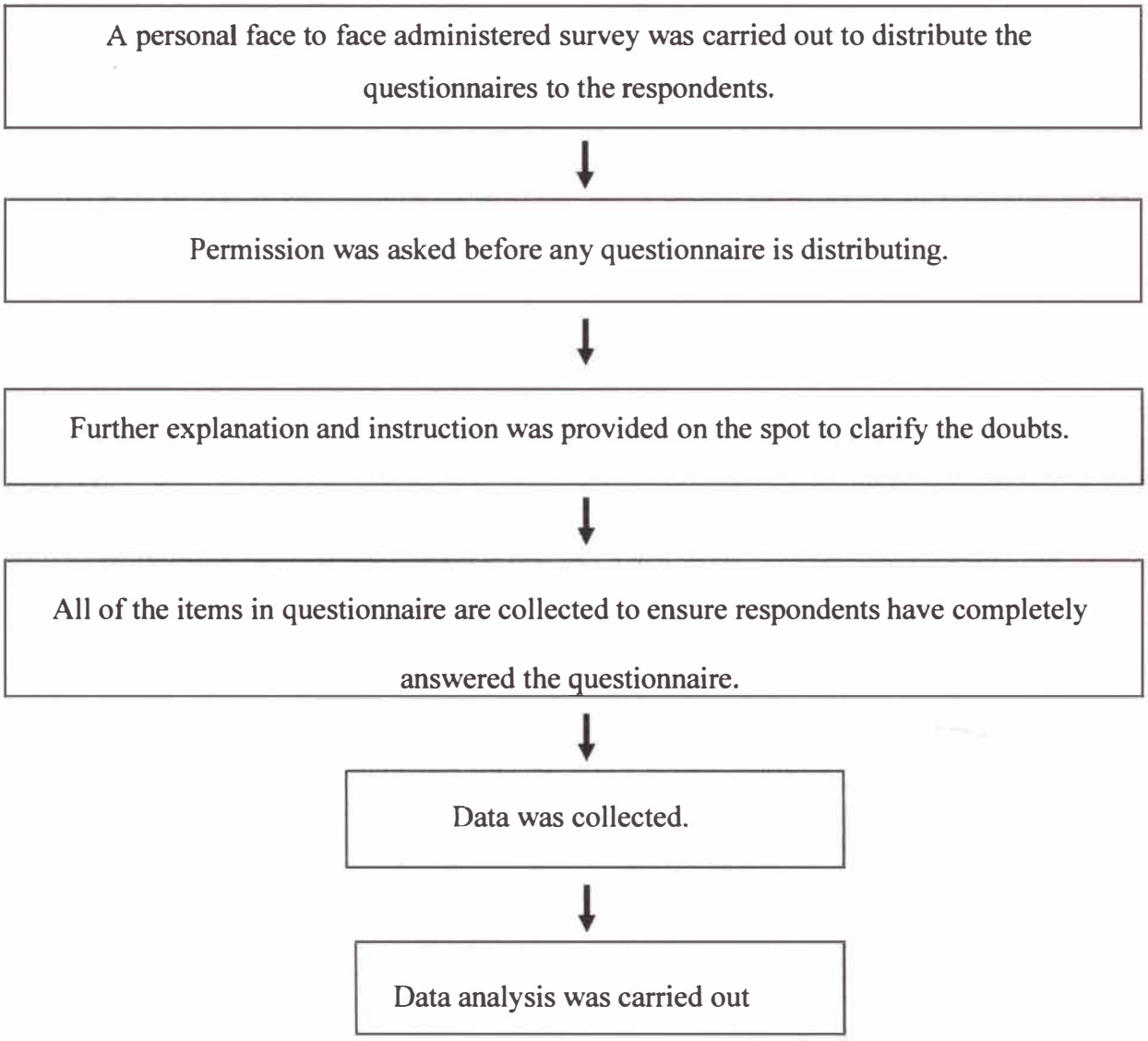

Figure 3.2: Procedure of data collection from respondents

3.7 Hypothesis

Hypothesis test commonly explains specific relationships, or the independence of two or more factors in a situation (Sekaran & Bougie, 2009). Through hypothesis test, the independence between two variables was established. In this study, non-directional hypothesis was used. There were two hypotheses, such as:

H_O : There is no significant relationship between health and weight control factor

H_A : There is a significant relationship between health and weight control factor

and

H_O : There is no significant relationship between weight control and price factor

H_A : There is a significant relationship between weight control and price factor

3.8 Data analysis

After the data collection, the data was analyzed. First of all, each completed questionnaire was assigned with a number, which usually known as data coding.

Statistical Package for Social Science (Spss version 16.0 was used to analyze the data. Frequency was used to count the number of times various subcategories of a certain phenomenon occur from, which the percentage and cumulative percentage of their occurrence was easily calculated. For example, it was used to measure the frequencies for the numbers of individuals in the various types of ethnic in the sample.

Normality test was carried out. In this descriptive research, mean, median, mode and standard deviation were analyzed. Mean was used to measure the average of all of the data in the data set (Sekaran & Bougie, 2009). For example, the respondents rated the importance of the reasons that affect their food choice decision. Hence, by measuring the mean, the average score on each reason was determined. Standard

deviation was used to measure of the average dispersion of the values for the data of the various factors.

Non-parametric test was used in this research, which is to study the comparison between demographic characteristics among food choice factor of career women. As the data was non-normally distributed ($p<0.05$), two non-parametric tests were used, i.e Kruskal-Wallis and Mann-Whitney. In addition, Mann-Whitney test was used to analyze the variables between two groups, such as a comparison of food choice factors with government and private sector (Pallant, 2001). On the other hand, Kruskal-Wallis was used to analyze the variables with more than two groups (Pallant, 2001). All data was analyzed with the value at $p<0.05$ will be taken as significant.

Correlation was used to assess the relationship between two variables (Robert & Richard, 2008). For example, it was used to determine the relationship between the factor of health and weight control. Moreover, as the data shown non-normally distributed, a Spearman correlation matrix used to indicate the direction and strength of which is the most significant factor influencing food choice among career women. Guilford Rule of Thumb was used to measure the strength of relationship, r. As the strength of relationship (r) is more than 0.7, the relationship is considered as high relationship (Guilford, 1973).

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Results and discussions

This cross-sectional study was carried out in Penang. The total number of respondents who voluntarily agreed to participate in this survey was 100 career women aged 18 to 65 years.

In the present study, factors influencing food choice among career women by ranking of the food choice factors, comparison of the food choice motives with socio-demographic variables and correlation between food choice factors were investigated.

4.1.1 Socio-demographic characteristics of career women

Socio-demographic data of career women involved in the survey are shown in Table 4.1, which includes general classification aspects of ethnic group, age group, marital status, income level, educational level and working sector.

Table 4.1: Socio-demographic characteristics of career women

Characteristics	Career Women (n=100)	
	N	Percentage (%)
Race		
Malay	42	42.0
Chinese	52	52.0
Indian	6	6.0
Age		
18-29	53	53.0
30-39	32	32.0
40-49	11	11.0
50-59	2	2.0
60 and above	2	2.0
Marital Status		
Single	46	46.0
Married	50	50.0
Divorced/Separated	2	2.0
Widowed	2	2.0
Income Level		
Below 1500	30	30.0
1500 – 3500	50	50.0
3501 – 5500	13	13.0
Above 5500	7	7.0
Education Level		
PMR/SPM or below	40	40.0
Diploma	32	32.0
Degree/Professional certificates	25	25.0
Post Graduate	3	3.0
Working Sector		
Government sector	43	43.0
Private sector	57	57.0

The demographic characteristics among career women are shown in Table 4.1. 52% of Chinese was in the highest group, 42% of Malay was in the middle group, and 6% of Indian was in the lowest group when classified by the ethnic group. Among career women, the highest age group was 18 to 29 years (53%) while the lowest were among those between 50 to 59 years (2%) and 60 to 65 years (2%).

In addition, it was found that most of the career women were married (50%). However, 46% of career women were reported to be single, 2% of them divorced or separated, and 2% of them were widowed. Besides, the highest range of income level among career women was RM1500 to RM 3500 at 50% and the lowest range was more than RM5500 at 7%.

From Table 4.1, the highest educational level among career women was in the group of PMR and SPM or below (40%) while the lowest was among those with post graduate (3%). From the data, 43% of the career women were government sector workers and 57% of the career women were private sector workers.

4.2 Factors that influencing food choice among career women

In the present study, the FCQ is an instrument with 1 to 5 scale that used to manage a realistic typology of general food selection related factors. Mean average ratings on a 5-point rating scale of food choice factors among career women are presented in Table 4.2. Scores were computed by averaging ratings for individual variables on each scale. Therefore, the score could range from a minimum of 1 to a maximum of 5.

Table 4.2: Mean average ratings and ranking of food choice factors by career women

Food Choice Factors	Career women	
	Mean	Standard deviation
Convenience	3.98	0.679
Natural Content	3.93	0.745
Health	3.91	0.787
Price	3.90	0.767
Weight Control	3.89	0.787
Sensory Appeal	3.88	0.650
Mood	3.80	0.714
Ecological Welfare	3.64	0.723
Religion	3.58	0.916
Familiarity	3.51	0.742

5-point Likert scale: 1 = strongly disagree; 5 = strongly agree

From Table 4.2, the highest mean average rating of career women's factors for food choice is convenience, followed by natural content factor and health factor. In addition, three of these factors were rated in higher mean, as compared to others. Interestingly, the lowest mean average rating of food choice factors of career women were similar to Malay wives in at urban community of Selangor (Asma et al., 2010). As a result, convenience, natural content and health were the top three factors of career women in choosing general food.

Convenience was rated as the most important factors for selecting the food in current study as all of the respondents were career women who having busy working schedule with hectic lifestyle. For example, Asma et al. (2010) conducted a study in Malaysia by comparing food choice motive between Malay husbands and wives, where convenience was found to be the 3rd most important motives rated by the subjects. Hence, consumers in Malaysia, especially career women, always concern on convenience factor when making food choice decision.

Natural content was one of the important factors which came after convenience factor in this research. Similarly, Steptoe et al. (1995) was also found that Taiwan consumer ranked natural content factor in the first place; while Malaysia and

Japan consumers ranked it in the second place. Hence, these results concluded that natural content may override other food choice factor in Asian countries while New Zealand (Presscott et al., 2002) consumers was ranked this factor in 6th place. However, this was different from Honkanen and Frewer's findings (2009), where natural content was an important factor just among prisoners and unemployed people.

Career women in this present study also rated health as one of the important factors. Moreover, there was a previous study, which carried out in Malaysia also reported health as the most prominent food choice factors among Chinese group (Prescott et al., 2002). In addition, Asma et al. (2010) also found that Malay women ranked health factor in the first place recently. Thus, these results concluded that health factor may override other food choice factor regardless to races group.

In the other hand, the bottom three food choice factors were ecological welfare, religion and familiarity. Religion and ecological welfare was not considered as the most important factors in present study. It was not surprised that these factors were surpassed by all of the other factors, where Lindeman & Väänänen (2000) was expected they are normally ranked as less important and it may just override the other food choice factors in certain situation or among certain subgroups individual.

Ecological welfare and familiarity were ranked as the lesser important factors in present study. Furthermore, the findings were found to be similar in several countries, such as Malaysia (Prescott et al., 2002; Asma et al., 2010), Great Britain (Steptoe et al., 1995), New Zealand and Taiwan (Prescott et al., 2002). Nevertheless, Japan consumers were rated ethnical concern in the 4th place as the most important food choice factor (Prescott et al., 2002). Hence, these results concluded that consumers in Malaysia seldom concern on the ecological welfare and familiarity factors when making food choice decision.

4.3 Socio-demographic and food choice motives

4.3.1 Comparison of food choice motives between races among career women

Table 4.3: Ethnic group of career women on food choice motives

Food choice motives	Mean Rank (MR)			p-value
	Malay (n=42)	Chinese (n= 52)	Indian (n=6)	
Health	48.54	50.52	64.08	NS
Mood	52.88	49.14	45.58	NS
Convenience	51.61	48.82	57.33	NS
Sensory appeal	57.65	42.36	71.00	.007**
Natural content	43.27	54.99	62.17	NS
Price	53.92	45.97	65.83	NS
Weight control	51.05	50.63	45.5	NS
Familiarity	54.3	48.2	43.83	NS
Ecology welfare	52.04	49.32	50.00	NS
Religion	58.93	42.56	60.33	.014*

** Value of $p < 0.01$ indicates highly significant different by Kruskal-Walis test
* Value of $p < 0.05$ indicates significantly different by Kruskal-Walis test
NS Value of $p > 0.05$ indicates not significantly different by Kruskal-Walis test

In the present study, career women who participated were Malay, Chinese and Indian. The comparison of food choice motives between race groups among career women is shown in Table 4.3. Results indicate that there was highly significant differences between sensory appeal factor and race groups among career women ($p<0.01$). Moreover, religion factor was significantly difference among race groups of career women ($p<0.05$).

From Table 4.3, it found that sensory appeal (MR = 71.00) was the most important food choice factor for Indian. However, religion (MR = 58.93) and natural content (MR = 54.33) were the most important food choice factor for Malay and Chinese respectively. In the other hand, the least important food choice rated by

Malay, Indian and Chinese were natural content (MR = 43.27), familiarity (MR = 43.83) and sensory appeal (MR= 42.36).

For sensory appeal, Indian rated the highest mean while Chinese rated it as the lowest mean. In Asian-Indian dish, vegetables always seasoned with *garam masala* (a curry blend that may include coriander, cumin, fenugreek, turmeric, cardamom, and other spices) (Klittler & Sucher, 2004). Based on the previous study, this could be concluding that Indian consumers used to have heavier or stronger taste of foods. Meanwhile, Chinese also ranked natural content as the most important factor among others. Based on literature review, Prescott et al. (2002) suggested that traditional Chinese mostly thought the natural food to be "medicine". From this finding, the present study indicated Chinese women can be considered as ideological eater, especially who behave to be healthier eater. The ideological women who concerned on natural content of food choice, they may often have their own thinking towards the non natural food as "bad" or "unhealthy" food for themselves (Chaiken & Pliner, 1987; Rozin, 1997; Stein & Nemeroff, 1995).

Present study showed that Malay rated religion as the most important factor. Similarly, recent study of Asma et al. (2010) which carried out in Malaysia indicated that religion food choice factor was ranked as important factor by Malay husbands and wives, especially Malay husband placed this factor at the first place. Based on literature review, it was a common finding where Muslims were more concerned on the Islam's food guidelines and more likely to choose food based on certificate of "Halal" (Asma et al., 2010). Therefore, Malay consumers used to make food decision based on their religion's food guidelines.

4.3.2 Comparison of food choice motives between ages among career women

Table 4.4: Age group of career women on food choice motives

Food choice motives	Mean Rank (MR)					p-value
	18-29 (n=53)	30-39 (n=32)	40-49 (n=11)	50-59 (n=2)	60 and above (n=2)	
Health	46.43	54.41	56.64	62.50	50.00	NS
Mood	48.33	54.34	46.45	57.75	61.50	NS
Convenience	51.67	47.06	59.09	52.00	25.75	NS
Sensory appeal	48.81	56.27	44.27	55.25	32.50	NS
Natural content	44.29	53.89	62.05	58.25	89.50	NS
Price	49.45	54.91	44.18	62.75	30.25	NS
Weight control	44.88	57.52	53.73	46.75	73.25	NS
Familiarity	50.50	54.86	43.27	50.00	21.00	NS
Ecology welfare	45.11	59.62	46.73	27.00	91.50	.031*
Religion	49.69	57.86	34.00	52.75	42.75	NS

* Value of $p < 0.05$ indicates significantly different by Kruskal-Walis test
NS Value of $p > 0.05$ indicates not significantly different by Kruskal-Walis test

The Kruskal-Walis analysis of comparing career women's food choice motive with age is shown in Table 4.4. There were career women aged 18 to 65 participated in the present study. Throughout the findings, there were only one factor showed the significant difference between age groups and food choice motives, which was ecological welfare ($p=0.031$).

Furthermore, women between 18 to 29 years rated that convenience (MR= 62.05); women between 40 to 49 years rated natural content (MR = 62.05); and women between 50 59 years rated health (MR = 62.50) respectively as their most important factor. In addition, women between 30 to 39 years (MR = 59.62) and 60 years and above (MR = 91.50) were more concern on ecological welfare.

Moreover, the age group of 30 to 39 years and years of 60 and above were prior their food choice motive on ecological welfare. This could be summarized as the age groups may obviously affect on this ecological welfare food choice factor. According to literature review, individuals that concerned on this factor may have their ideological thinking and beliefs. Lindeman and Stark (1999) were also proved that young and middle-aged women seem to have magical thinking and vegetarianism. Identically, women those from 30 to 39 years in present study were categories as middle-aged women, and they were ranked ecological welfare as the most crucial factor in food selection. Hence, middle-aged women would have their own belief in categorized the food product in 'good' or 'bad' range and 'healthy' or 'non-healthy' group.

On the contrary, Steptoe et al. (1995) found that familiarity was differed between the age groups. That research found that older people were seldom being adventurous to explore for novel foods, so they were more concerned on familiarity (Pliner & Pelchat, 1991). Besides, another previous study reported that elderly most frequently concerned on price and convenience factors in making food choice decision (Falk et al., 1996). Older women tend to perceive worth items as a crucial consideration in their food choices. Moreover, elderly prior on convenience factor was mainly concerned on ease of preparation, but not in term of saving time. Nevertheless, this present study, older women were prior to ecological welfare.

4.3.3 Comparison of food choice motives between marital statuses among career women

Table 4.5: Marital status of career women on food choice motives

Food choice motives	Mean Rank (MR)				p-value
	Single (n=46)	Married (n=50)	Divorced (n=2)	Widowed (n=2)	
Health	44.36	55.93	39.50	67.00	NS
Mood	43.83	56.24	33.25	77.75	NS
Convenience	48.18	52.34	59.75	48.50	NS
Sensory appeal	46.61	53.96	54.50	49.50	NS
Natural content	46.24	52.87	50.25	89.50	NS
Price	49.55	52.63	17.50	52.00	NS
Weight control	47.03	52.68	44.50	81.75	NS
Familiarity	42.71	59.53	23.50	31.00	.011*
Ecology welfare	46.08	54.20	46.25	64.00	NS
Religion	49.22	53.05	18.25	48.50	NS

* Value of $p < 0.05$ indicates significantly different by Kruskal-Walis test
NS Value of $p > 0.05$ indicates not significantly different by Kruskal-Walis test

Table 4.5 presented the result of comparing food choice motive with marital status. The food choice factor of familiarity (p=0.011) was significantly difference with the marital status. In the food choice selection, single women concerned on price at MR = 49.55; married women concerned on familiarity at MR = 59.53; divorced women concerned on convenience at MR = 59.75 and widowed were concerned on natural content at MR = 89.50. Nevertheless, married and divorced women were least concerned on price, which at MR = 52.63 and MR = 17.50 respectively. Moreover, widowed (MR = 31.00) and single women (MR = 42.71) rated familiarity as their least important food choice motive.

Familiarity showed the significant difference in food selection factor on marital statuses. The findings indicated that women who were single and widowed ranked familiarity as the least important factor and married women ranked it as the most important factor. According to literature review, mothers often play the important role in their households, especially their cooking skills may immediately affected on their families' daily meals (Dammann & Smith, 2009). Married women who concerned on familiarity do not explored on the novel food, so they may easily develop "food root" of their families after a period of time (Steptoe et al., 1995).

4.3.4 Comparison of food choice motives between income levels among career women

Furthermore, there was a significant difference between religion factor (p=0.026) with income level among career women, as the result is shown in Table 4.6.

Table 4.6: Income level of career women on food choice motives

Food choice motives	Mean Rank				p-value
	Below RM1500 (n=30)	RM1500 – RM3500 (n=50)	RM3501 – RM5500 (n=13)	Above RM5500 (n=7)	
Health	46.75	47.57	56.92	75.57	NS
Mood	46.98	49.81	49.69	60.43	NS
Convenience	52.72	47.38	54.77	55.36	NS
Sensory appeal	52.02	50.06	53.54	41.50	NS
Natural content	47.27	47.65	62.85	61.79	NS
Price	55.73	48.29	46.92	50.50	NS
Weight control	47.40	47.90	56.42	71.36	NS
Familiarity	48.42	50.29	55.96	50.79	NS
Ecology welfare	53.18	47.67	45.08	69.29	NS
Religion	51.22	46.48	71.15	37.79	.026*

* Value of $p < 0.05$ indicates significantly different by Kruskal-Walis test
NS Value of $p > 0.05$ indicates not significantly different by Kruskal-Walis test

In the comparison of mean rank, low income women (below RM1500) rated the highest mean in price factor (MR = 55.73) and rated the lowest mean in health factor (MR = 46.75). Furthermore, high income women rated the highest mean in health factor (MR = 75.57) but they rated the lowest mean in religion factor (MR = 37.79) during selecting food.

Religion factor showed the significant difference among income levels and food choice motive among the respondents. In addition, the present study found that lower income women prior their food selection factor on price; while higher income women prior on health factor.

Low-income women concerned on price of foods, but at the same time they ranked health as the least important factor. Besides, there were several studies found the similar findings, where food cost was the first element that low-income women took into the consideration before they select foods (Drewnowski, 2004; Richards & Smith, 2006; Steptoe et al., 1995). Hence, they usually do not purchase the healthy diet which at higher cost when they are selecting food. For example, consumers on lower income in UK seldom consume fruit and vegetables, which found to be higher in costs (Cade et al., 1999).

On the oppositely, Steptoe et al. (1995) found that when income increased, they are more affordable and willing to spent on food. Therefore, high-income women are suspected to be more willing to select healthier foods, such as organic foods, functional foods and supplementary diet. Moreover, people on higher income in UK tend to consume more fruit and vegetables although the cost was found to be higher (Dibsdall et al., 2002).

4.3.5 Comparison of food choice motives between educational levels among career women

The comparison of food choice motives between educational levels among career women is shown in Table 4.7. There were significantly differences between convenience (p=0.035) and price factor (p=0.047) with educational levels among career women.

Table 4.7: Educational level of career women on food choice motives

Food choice motives	Mean Rank				p-value
	PMR/SPM or below (n=40)	Diploma (n=32)	Degree/ Professional certificates (n=25)	Post graduate (n=3)	
Health	43.76	60.39	48.20	54.00	NS
Mood	48.85	54.92	49.60	32.83	NS
Convenience	51.06	57.50	45.52	9.83	.035*
Sensory appeal	50.14	54.89	48.58	24.50	NS
Natural content	49.54	53.81	47.88	49.83	NS
Price	56.61	52.98	41.02	21.50	.047*
Weight control	52.19	51.48	46.42	51.50	NS
Familiarity	46.40	58.05	47.86	46.67	NS
Ecology welfare	53.91	48.78	49.98	27.67	NS
Religion	46.84	54.52	53.36	32.67	NS

* Value of $p < 0.05$ indicates significantly different by Kruskal-Walis test
NS Value of $p > 0.05$ indicates not significantly different by Kruskal-Walis test

Women, who were holding diploma and post graduate most concerned on health factor at MR = 60.39 and MR = 54.00 respectively. In addition, lower education women (PMR/ SPM or below) were rated price as the most important factor at MR = 56.61. Women who had degree holders most concerned on ethnical welfare factor at MR = 49.98.

In the present study, women those with PMR/SPM or below were categorized as lower educational group and the rest was categorized as higher educational group. As a result, lower educated women prior the same factor as low-income women, which was price factor. Previous study indicated that there was a common perception among the lower educational women attainment that 'healthy' food was more expensive so they could not afford it (Barker et al., 2008). Other than that, women usually did not buy the fresh fruit and vegetables on a limited budget, as they were very likely not to be eaten and 'went off' very quickly (Barker et al., 2008). Contrary, higher educated women ranked the health factor at the first place in food selection.

Previous study found that educational level affect on price factor in food choice just happened on lower educated individual (Drichoutis & Lazaridis, 2006). Higher educated individuals were seldom ranked price as very important food choice factor. Throughout the finding in present study, higher income women were more likely to choose healthier diet rather than concerned on food cost.

4.3.6 Comparison of food choice motive between working sector

According to the results in Table 4.8 indicate that there were no significant differences in food choice motives with working sectors among career women ($p>0.05$).

Moreover, the familiarity factors, was rated as most important factors for government workers (MR = 56.65), but it was rated as the least important factors for private sector workers (MR = 45.86). Other than that, private sector workers were more concerned on weight control factor at MR = 52.76; government sector workers were least concerned about natural content at MR = 47.51.

Table 4.8: Working sector of career women on food choice motives

Food choice motives	Mean Rank		p-value
	Government sector (n=43)	Private sector (n=57)	
Health	49.00	51.63	NS
Mood	49.30	51.40	NS
Convenience	50.20	50.73	NS
Sensory appeal	54.55	47.45	NS
Natural content	47.51	52.75	NS
Price	51.94	49.41	NS
Weight control	47.50	52.76	NS
Familiarity	56.65	45.86	NS
Ecology welfare	49.05	51.60	NS
Religion	52.67	48.86	NS

NS Value of $p > 0.05$ indicates not significantly different by Mann-Whitney test

Surprisingly, there were no significant differences of food selection motive between government and private sector among career women in this study. To date, there was few studies have so far reported the demographic characteristics on food choice of women in Malaysia (Prescott et al., 2002; Asma et al., 2010). Nevertheless, the present study included one more demographic characteristic, i.e. working sector.

4.4 Inter-correlation between health and weight control factors; and weight control and price factors among career women

Comparison showed that health factor ($r=0.640$, $p=0.000$) and price factors ($r=0.423$, $p=0.000$) between weight control factors were moderately correlated to each other. Moreover, the strongest relationship among all of the food choice factors was relationship of health and mood factor with $r=0.687$ and $p=0.000$. On the other hand, it

was found that familiarity and weight control factor (r=0.178, p=0.077) was weakly correlated to each other.

In the present study, all of the factors were weakly to moderately associate with each other. The result suggested that health factor is moderately associated with weigh control factor. Doubtlessly, nowadays women were concerned on their body weight particularly on body appearances and images. Since 1998, Pollard and colleagues concluded that women who concerned on their body weight, were tends to consume healthier food. In addition, healthy body may increase the performance in their job. As Wardle et al. (2004) mentioned that healthier food choice could maintain the healthier workplace. Other than that, healthy eating not only could help to avoid weight gain, it was also showing that women are practicing the modern lifestyle.

Factor of weight control was also moderately associated with price factor in food selection of career women. Both of these factors may influence each other in several aspects, such as income level, educational level and body image among women. Prescott and colleagues (2002) observed that women tend to eat low calorie food more than considerations of cost for food. In the other hand, a market study reported Asian women showing desire to increase the frequency of eating out as they felt that it would be cheaper and easier than cook at home (Nielsen, 2006). However, this study was also indicated that as the frequency of eating out increased, the percentage of weight gain was also increased. Moreover, sweet and high-fat foods, which categorize as calories-dense foods are at low in cost (Drewnowski & Specter, 2004). Hence, although eating out and consuming sweet or high-fat foods could be save in food cost but it may lead to increase obesity rates.

Other than that, the top three highest related factors were health and mood factors (r=0.687, p=0.000); mood and familiarity factors (r= 0.680, p=0.000); and

mood and ecological welfare factor (r=0.679, p=0.000). Among all of these stronger correlated factor, it shown that mood was the common factor which associate with others. Not surprisingly, women usually were more emotional on eating especially career women who were stressed on their position (McCann et al., 1990; Wardle et al., 2000; Van Strien et al., 1986). Based on literature reviews, familiarity and mood showed a positive association in between. This indicated that familiar food could regulate individual's pressure (Steptoe et al., 1995).

Regarding to the relationship between health and mood factors, previous studies indicated that stress may influence on individual food selection factor by raising the intake of food in high sugar and fat (Pollard et al., 1995; McCann et al., 1990; Wardle et al., 2000). Therefore, while women were under stress, they would prefer to choose on those unhealthy foods. Oliver et al. (2000) did show a trend that stressed women were increased their sweet and bland foods in daily intake. Hence, this relationship between health and mood factors indicated that career women, who usually under stress may increase the consumption of high sugar and fat food.

CHAPTER 5

CONCLUSION AND SUGGESTION

5.1 Survey of the result

The present study provides the estimation of the most important food choice factor of career women. The study found that convenience was the most crucial factor for career women during food selection, followed by natural content and health factor.

There were several aspects of socio-economic status affected on food choice factor, such as educational level and income level. Other than that, food choice motives were depended on career women's personal factor, in term of ethnicity and age. Marital status, which classified as social role of women was also affected food choice factors. Besides, women usually were more emotional on eating, as mood factor was moderately related to other food choice factors. Hence, developing targeted intervention programs to achieve healthier lifestyle with convenience food choice would be a reasonable approach to tackle career women. Besides, developing healthier foods with lower calories would be a great choice for career women, as they concerned more on healthy and weight control factor in their food choice selection.

5.2 Limitation of the study

There were a number of limitations to present study. First of all, this study was a small scale study which involved career women in Penang. Hence, the findings in

this study do not representative for all of the career women in entire Malaysia, as the research was only carried out in Penang. Other than that, the data were only available from the career women who returned the questionnaire and who was willing to participate in this study to express their food choice factor in making food selection. Moreover, this study used convenience and purposive sampling methods to select the participants. These sampling methods are very easy to carry out in a relatively fast and inexpensive way. However, convenience sampling means that the sample is unlikely to be representative of the population being studied. Besides, the FCQ was concerned with the important factor which influenced the food choice motives, and these factors do not necessarily reflect the actual purchase intention of career women.

5.3 Suggestions for further study

Further study may examine the important food choice factor of career women in entire Malaysia. Hence, the religion and cultural behavior can be included, especially in the state of Sabah and Sarawak. Besides, further study is also needed to include comparison between males and females, who are working. In addition, the samples could be comparing between urban and rural areas. The food consumption patterns among respondents merits for further study. Moreover, systematic or random sampling can be used to select the participants. Other than that, relationship between purchase behaviors of consumer is suggested for further study. In addition, between married males and females, who is most involved in making food choice can be examined.

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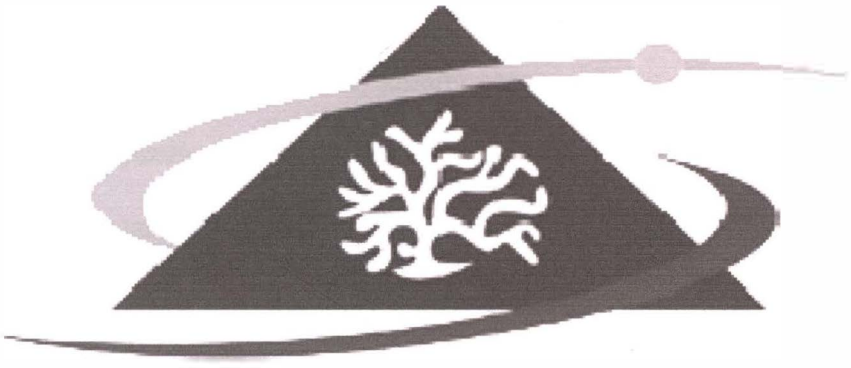
APPENDIX A

Code:

Date:



UNIVERSITI MALAYSIA TERENGGANU

SURVEY QUESTIONNAIRE

TITLE:

FACTORS INFLUENCING FOOD CHOICE AMONG CAREER WOMEN IN PENANG

My name is Soo Wooi Ping, UK16712. I am a third year student from the Faculty of Agro Technology and Food Science (FASM), University Malaysia Terengganu. This survey is conducted for the subject: Final Year Project (MKN 4599) to fulfill the request of a degree of Bachelor degree of Food Science (Food Service and Nutrition). All information obtained is strictly confidential and will be used only for the purpose of the study. Thank you for cooperation given for the completion of this survey. Thank you.

Introduction

Dear Participant, 30 May 2011

This questionnaire is designed to study the **Factors Influencing Food Choice Among Career Women In Penang.** The information you provide will help us better understand the food choice decision among career women. You are selected for this study because it is believed that you are the one who can give us the correct picture of how a career woman selects the food to consume on typical day. This survey will take about 10 minutes. The questionnaire consists of two parts. Please kindly fill up the survey questionnaire. All information given will be kept confidential and used solely for academic purposes. Your cooperation will be very much appreciated. Thank you.

Part A: Factors of food choice

By using 5-point Rating Scale,choose the most appropriate answer with (1= Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly Agree)

Reasons for food choice decision:

It is important to me that the food I eat on a typical day:						
	Reasons					
1	Is easy to prepare	1	2	3	4	5
2	Contains no additives	1	2	3	4	5
3	Is low in calories	1	2	3	4	5
4	Tastes good	1	2	3	4	5
5	Contains natural ingredients	1	2	3	4	5
6	Is not expensive	1	2	3	4	5
7	Is low in fat	1	2	3	4	5
8	Is familiar	1	2	3	4	5
9	Is high in fibre and roughage	1	2	3	4	5
10	Is nutritious	1	2	3	4	5
11	Is easily available in shops and supermarkets	1	2	3	4	5
12	Is good value for money	1	2	3	4	5
13	Cheers me up	1	2	3	4	5
14	Smells nice	1	2	3	4	5
15	Can be cooked very simply	1	2	3	4	5
16	Helps me cope with stress	1	2	3	4	5
17	Helps me to control my weight	1	2	3	4	5

18	Has a pleasant texture	1	2	3	4	5
19	Is in harmony with my religious views	1	2	3	4	5
20	Is packaged in an environmentally friendly way	1	2	3	4	5
21	Is like the food I ate when I was a child	1	2	3	4	5
22	Contains a lot of vitamins and minerals	1	2	3	4	5
23	Contains no artificial ingredients	1	2	3	4	5
24	Keeps me awake/alert	1	2	3	4	5
25	Looks nice	1	2	3	4	5
26	Helps me relax	1	2	3	4	5
27	Is high in protein	1	2	3	4	5
28	Takes no time to prepare	1	2	3	4	5
29	Keeps me healthy	1	2	3	4	5
30	Is good for my skin/teeth/hair/nail etc.	1	2	3	4	5
31	Makes me feel good	1	2	3	4	5
32	Has been prepared in an environmentally friendly way	1	2	3	4	5
33	Is what I usually eat	1	2	3	4	5
34	Helps me cope with life	1	2	3	4	5
35	Can be bought in shops close to where I live or work	1	2	3	4	5
36	Is cheap	1	2	3	4	5
37	Has been produced in a way that animals have not experienced pain	1	2	3	4	5
38	Has been produced in a way that animals' rights have been respected	1	2	3	4	5

39	Is not forbidden in my religion	1	2	3	4	5
40	Has been produced in a way which has not shaken the balance of nature	1	2	3	4	5

Part B: Demographic Profile

In this section, demographic profile about respondents is asked. Please choose only **ONE** answer for each question.

1. Race:

( ) Malay

( ) Chinese

( ) Indian

( ) Other (please specify)

_____

2. Age:

( ) 18 - 29

( ) 30 - 39

( ) 40 – 49

( ) 50 - 59

( ) 60 and above

3. Marital status:

( ) Single

( ) Married

( ) Divorced

( ) Widowed

4. Income level:

( ) Below 1500 ( ) 3501 – 5500

( ) 1500 – 3500 ( ) Above 5500

5. Working sector:

( ) Government Sector ( ) Private Sector

6. Educational levels

( ) PMR/SPM or below ( ) Diploma

( ) Degree/Professional Certificates ( ) Post Graduate

Others, please state: _____

CURRICULUM VITAE

Name	: Soo Wooi Ping
Permanent Address	: 245-A, West Jelutong,
	11600, Penang.
Telephone Number	: 016-4260122
E-mail	: swooiping@yahoo.com
Date of Birth	: 12 September 1988
Place of Birth	: Penang
Nationality	: Malaysian
Race	: Chinese
Gender	: Female
Religion	: Buddha

Educational Background :

2008-2012	Universiti Malaysia Terengganu
2006-2007	Penang Methodist Boys' School
2001-2005	Sekolah Menengah Kebangsaan Convent Datuk Keramat
1995-2000	Sekolah Rendah Jenis Kebangsaan (c) Convent Datuk Keramat

Awards :

2008/2009 – July & December – Deans' Award
2010/2011 – July & December – Deans' Award

FACTORS INFLUENCING FOOD CHOICE AMONG CAREER WOMEN IN PENANG - SOO WOOI PING